• COLORADO RIVER •

AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Vol. 1 JUNE 20, 1934 No. 11

INSTALLING PIPE SECTION ON LITTLE MORONGO SIPHON

The word "little" refers to geography and not to the siphon, which is the largest precast concrete pipe ever made in the United States, being 12 ft. in Diameter and the first of a two-barrel installation. (See Page 8.)

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AQUEDUCT NEWS
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
LOS ANGELES, CALIFORNIA

Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

Vol. 1 June 20, 1934 No. 11

COMMON SENSE

On Page 8 of this issue of the AQUEDUCT NEWS is printed authentic information on the cause, treatment, and prevention of heat stroke and heat exhaustion, based on facts compiled by Dr. T. Sheridan Carey, chief surgeon-medical officer of the Metropolitan Water District.

In reality, the article is nothing more or less than a most admirable essay on that trait known as common or horse sense.

As any medical man will tell you, the best cure of disease is prevention—and in this case prevention is almost wholly dependent upon the exercise of elemental good judgment.

There is nothing at all complicated about it. Any nine-year-old could easily understand and follow the simple rules for avoiding the ill effects of warm weather: proper diet, proper drinking water, and proper clothes.

The first two are merely matters of will power, while the third consists of remembering at all times that even the most handsome torso is not designed for over-exposure to a desert sun.

It may be concluded, then, that heat stroke and heat exhaustion are ailments resulting from an under-active thinking machine almost as much as from high temperatures—and the whole matter may be summed up in this one admonition: Use your head and save your health.

CONGRATULATIONS

Congratulations to the Coachella Division on the grand opening of its new Recreation Hall, which will have been dedicated with a dance by the time this issue of the NEWS reaches its readers.

The new building holds untold possibilities for recreation and pleasure. May the whole personnel of the Coachella Division realize on those possibilities to the fullest.

GENERAL MANAGER REVIEWS ACTIVITIES OF MONTH ON AQUEDUCT

(Editor's Note: The following is a brief summary of the monthly report of Assistant General Manager Burkholder (in the absence of General Manager and Chief Engineer Weymouth), filed with the Board of Directors in June, covering work during May. These summaries are presented at regular intervals.)

Legal Division—Delivery of Interim Certificate No. 12 was made to the Reconstruction Finance Corporation May 28, and payment therefor was received in the amount of $2,048,760.

Miscellaneous Activities Division—The District's labor employment office continued to investigate in the field and in the office the residence qualifications of all persons employed on aqueduct construction work, both by contractors and by the District. On May 31 approximately 2,600 certificates of registration, or permanent identification cards, had been issued to applicants for work.

Construction Division—(See progress table on Page 6.) Construction of the test section of the Fan Hill siphon and conduit was approximately 90 per cent completed at the end of the month. Installation of pipe on the Little Morongo precast pipe siphon proceeded during the month, and this work is approximately 80 per cent completed. All of the large dormitories on the Coachella Division are now equipped with cooling systems.

Field Engineering Division—The location, alignment, profile, and right of way ties on the Black Canyon transmission line from Boulder Dam to Hayfield have been completed. The taking of topography of the river bed in the Parker Reservoir above contour 475 between Needles and Fort Mojave also has been accomplished. Tests were made of the "safety primer" and on May 30 a regular round was fired in the east heading of Long Canyon tunnel which proved entirely satisfactory. These primers will be put in general use in the Coachella tunnels at an early date.

Routine supervision was given to transmission, telephone, and water lines. During the month of May a total of 4,339,200 kwhr of power were used, 13,000 telephone calls were handled, and 2,042,683 cubic feet of water was delivered.

Office Engineering, Civil—Specification drawings for the individual structures on Division 2 of the aqueduct have been completed and work started on drawings for Division 3. Comparative station-to-station estimates for comparison of full and half capacity aqueduct were prepared and analyzed. Work has been carried on in connection with the design of wasteway and sand trap structures and support for steel pipe siphons. The experimental investigations of the stresses occurring under load in the cut-and-cover conduit sections at Fan Hill continued.

The preparation of routine reports and correspondence, and the maintenance of statistical charts and records, continued.

Electrical Engineering Division—The structural design of transmission line towers and the location of towers on the profile were continued throughout the month. Further study was also given to the question of vibration of conductors and conductor diameter as affecting corona. Reports on the coordination of system insulation and on the results of the tests made on the electric calculating board at Pittsburgh were partially completed. The draft of specifications for the construction of the permanent transmission lines was begun. Preparatory work on the hydraulic laboratory was continued during the month, and it is anticipated that the laboratory should be ready for testing as soon as the dynamometer is received and installed, which should be early in July.

Right of Way Division—Regular work was continued on the securing of aqueduct rights of way.

Personnel Division—The April labor turnover for all District forces was 7.62 per cent, the turnover for all classified positions being 2.16 per cent and for unclassified positions 9.75 per cent.

Purchasing Division—During May a total of 1215 purchase orders were issued covering purchases amounting to approximately $225,966; 33 subpurchase orders amounting to approximately $843; the combined total purchases for the District for the month amounted to $226,809.

Accounting and Costkeeping Division—Actual costs to May 31, 1934, amounted to $19,918,920.39, covering portions of works and activities, the total cost of which is estimated at $61,647,772.

TELEPHONE IMPORTANT AID TO AQUEDUCT CONSTRUCTION

Illustrating the importance of rapid communication to modern construction activity, a count of aqueduct telephone traffic records revealed last week that 60,000 calls have been transmitted over the Metropolitan Water District's privately owned lines between January 1 and June 1, 1934.

To date the District has installed four switchboards. The first installation was made at the Banning field headquarters building, the second at Division 4 headquarters, the third at Division 3 headquarters, and the fourth at Division 1 headquarters. Of these four installations the one at Banning is considered the most important as it is the wire center from which circuits radiate to all locations served by the system and, in addition, is the location of interconnection between the District's system and facilities of the Southwestern Home Telephone Company. Connections are also made at this point over leased wires directly with the District's Los Angeles office.

The switchboard at Banning is a two-position multiple type board arranged with a full appearance of all lines on each switchboard section, whereas the switchboards installed at the other three locations are of the single position cordless type.

In connection with the Banning equipment is a wire chief's test turret with which routine maintenance testing is performed. With this apparatus it is possible to determine the type of fault which has occurred on any circuit and when used in connection with a Wheatstone bridge the location of the fault may be ascertained, thus permitting the wire chief to direct patrol men to the source of trouble with the least amount of lost motion.

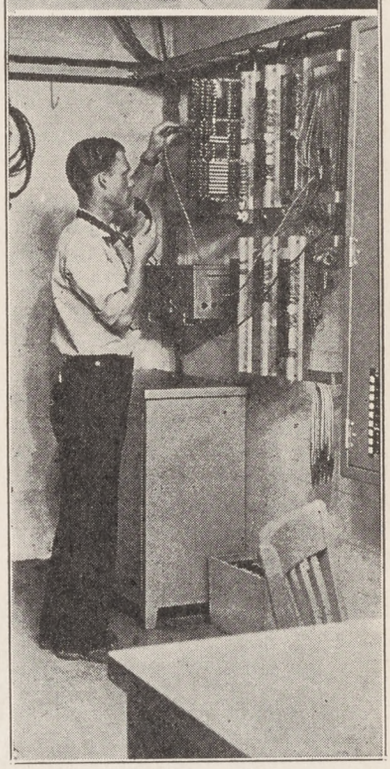
The telephone instruments, with the exception of those installed within the Banning office building, are of the local battery magneto type. The most pronounced difference between these instruments and those generally used in metropolitan areas is that a small hand generator has been incorporated in each instrument which is used for signalling the operator when placing, and upon completing, a call. There now are 196 separate instruments installed on the system.

The outside plant facilities, or lines, are of the open wire type, cable having been used only in short sections as a means of entrance to the buildings housing the switchboards. There is a total of 1052 miles of metallic telephone circuit in the system, 617 miles being carried on telephone poles owned exclusively by the District. 397 miles are carried on joint poles with other utility companies, and 38 miles are on joint poles with the District's power system.

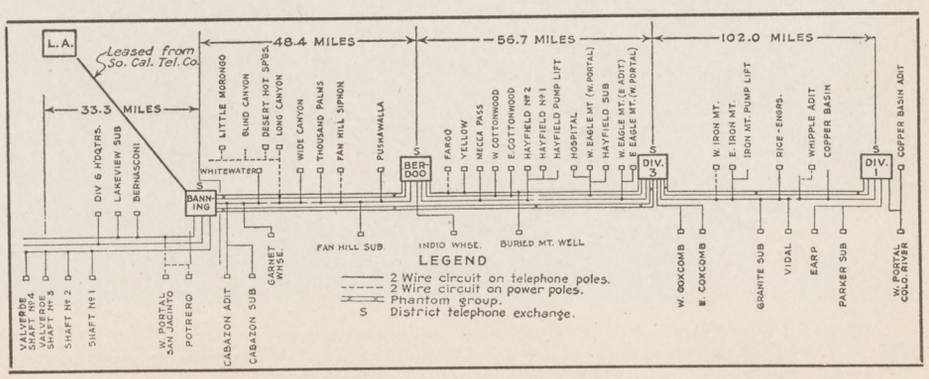
Two classes of circuits are employed, namely, trunk circuits and distribution circuits. The trunk circuits extend directly between switchboards and have been constructed for phantom use, thus permitting three conversations to be carried over each group of four wires simultaneously without interference between conversations. The distribution circuits are in general local to each division and connect the telephone instruments in each division to their respective switchboards.

All calls transmitted over the District system are timed and ticketed by the operators. This is accomplished with the aid of a calculagraph, an instrument which prints the elapsed time of each conversation in minutes and quarter minutes, and in addition, records the day of the month and year. Each switchboard is equipped with one such instrument. Charges are made on a three minute basis to contractors and District Divisions alike.

Supplementing the facilities described above are three teletype printer machines offering a telegraphic means of communication between the Los Angeles office, Banning headquarters, and Berdoo camp. These machines are not a part of the District system, but are owned and maintained by the Southern California Telephone Company and are charged for at rates prescribed by the California State Railroad Commission.



Misses Ola Huddleston and Katheryn Dunagan, operators at the Banning switchboard, and James Ketner, testing the lines at Banning. Below: Schematic diagram of the aqueduct telephone system.



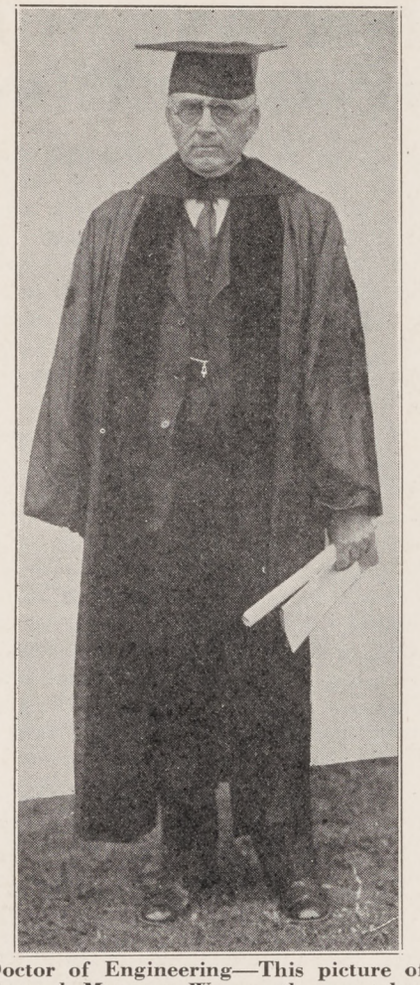
General Manager Is Given Doctor's Degree

In recognition of distinguished achievements in engineering an honorary degree of doctor of engineering was conferred at the sixty-third commencement exercises of the University of Maine, on June 11, upon Frank E. Weymouth, general manager and chief engineer of the Metropolitan Water District, and a distinguished alumnus of that institution.

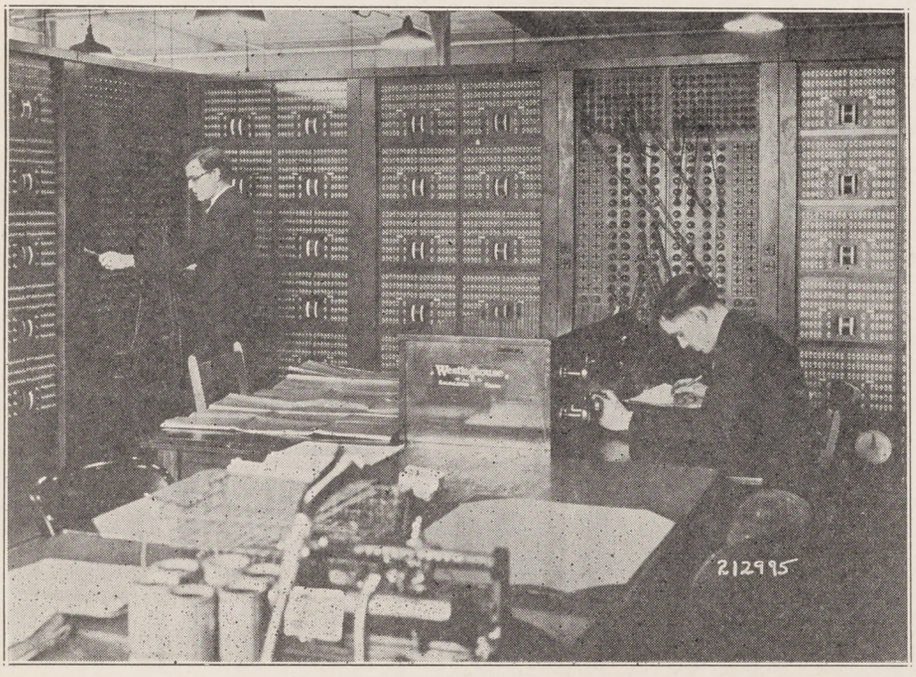
Mr. Weymouth, who is now in the East on District business, went to Orono, Me., the seat of the University, to present a paper on the Colorado River Aqueduct project before the alumni association of the institution.

The degree, voted by the trustees of the institution, was conferred upon Mr. Weymouth by Dr. H. S. Boardman, president of the University, who attended college at the same time as Mr. Weymouth, the latter being a member of the class of '96.

Mr. Weymouth's engineering career included many years as chief engineer of the United States Reclamation Bureau, during which time he directed the construction of the famous Arrowrock Dam and carried forward surveys and plans for Boulder Dam.



Doctor of Engineering—This picture of General Manager Weymouth was taken on June 11, just after he was awarded the degree by his alma mater.



District engineers went to Pittsburgh to solve power system design problems with the aid of this ingenious device. "Bill" Parker, Westinghouse engineer, is "plugging the board" while his companion takes readings.

Miniature Electric System Aids Studies

Because of the rapid progress being made in the construction of Boulder Dam, the District is now pushing ahead with studies in order to be ready, early next year, to tell the Government what sort of generators it wants installed in its part of the power house.

This means that the characteristics of the pump motors must also be determined, as the two should be related to each other in such a way as to produce a well-balanced system design.

Rare Opportunity

It is very rarely that a power system engineer has an opportunity to design an entire system "from the ground up," with no restrictions imposed by the existing equipment of established customers. However, in the case of the District's system this can be done, and District engineers are taking advantage of the opportunity to work out an overall design which combines generators, motors, and transmission lines in the most economically balanced relation.

On the technical side of these studies much helpful cooperation has been received from eastern manufacturers. District engineers have, in fact, visited the plants of the General Electric and Westinghouse companies and held detailed consultation with the designers.

Calculating Board

At the Westinghouse plant in Pittsburgh, the District made arrangements to use the "miniature power system" owned by that company. This does not actually contain toy-size generators and motors, but it does contain a maze of coils and condensers which represent the electrical characteristics of such equipment. With the help of this miniature system, or calculating board as it is usually called, it has been possible to analyze the behavior of various proposed system designs, not only under normal conditions but also under the influence of disturbances such as those caused by throwing one of the 8000 hp motor units on the line. As a result, a design has been selected which is economical and yet embodies a margin of safety adequate to withstand operating disturbances.

Walsh Construction Company has leased a 30-passenger bus to carry men from Copper Basin tunnel camp to the Colorado River tunnel, a one and one-half mile haul.

DIRECTORY

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S. H. Finley, Secretary

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General Manager and Chief Engineer.....F. E. Weymouth
Asst. General Manager.....J. L. Burkholder
Asst. Chief Engineer.....Julian Hinds
General Counsel.....James H. Howard
Asst. Controller.....J. M. Luney
General Superintendent.....James Munn
Chief Elec. Engineer.....J. M. Gaylord
Construction Engineer.....J. B. Bond
Asst. to Gen. Mgr.....Don J. Kinsey

DIVISION ENGINEERS

Division 1.....R. C. Booth
Divisions 2 and 3.....John Stearns
Division 4.....R. B. Diemer
Divisions 5 and 6.....B. C. Leadbetter

SUPERINTENDENTS

Colorado River, Copper Basin and Whipple Mt. Tunnels, Walsh Construction Co., F. T. Huntington, Gen. Supt.; W. A. Huntington and E. A. Hatch, Tunnel Supts.

Coxcomb Tunnel and Iron Mt. shaft, Winston Bros., E. A. Bernard, Gen. Supt.; F. T. Hillman and R. B. Johnson, Tunnel Supts.

Iron Mt. Tunnel, West Portal, Utah Constr. Co., Ben Arp, Gen. Supt.

East Eagle Mt. Tunnel and West Eagle Mt. Tunnel, east portion, Broderick & Gordon, F. E. Stokes, Gen. Supt.

West Eagle Mt. Tunnel, west portion L. E. Dixon and Bent Bros., P. C. Guinn, Gen. Supt.

Hayfield Tunnel No. 1, Hunkin & Conkey Constr. Co., G. B. Hoag, Gen. Supt.; F. Backlund, Tunnel Supt.

Hayfield Tunnel No. 2, Shofner & Gordon, H. E. Warden, Gen. Supt.

Cottonwood Tunnel, J. F. Shea Co., Inc., Gilbert Shea, Gen. Mgr.; Joe Bonner and Carl Nelson, Tunnel Supts.

Mecca Pass Tunnels, Morrison-Knudsen, S. A. Dahlberg, Gen. Supt.; C. A. Griffen, Asst. Supt.

Coachella Division, R. M. Merriman, Division Supt.

Yellow Canyon Adit, E. Coachella Tunnel—
District Force Account.....W. L. Taylor

Fargo Adit, East Coachella Tunnel—
District Force Account.....J. H. Manwaring

Berdoo Adit, East Coachella Tunnel—
District Force Account.....F. A. Weller

Pushawalla Adit, East Coachella Tunnel—
District Force Account.....C. J. Kavanagh

Thousand Palms—
District Force Account.....D. L. Reaburn

Wide Canyon—
District Force Account.....John Jackman

Long Canyon—
District Force Account.....E. E. McCabe,

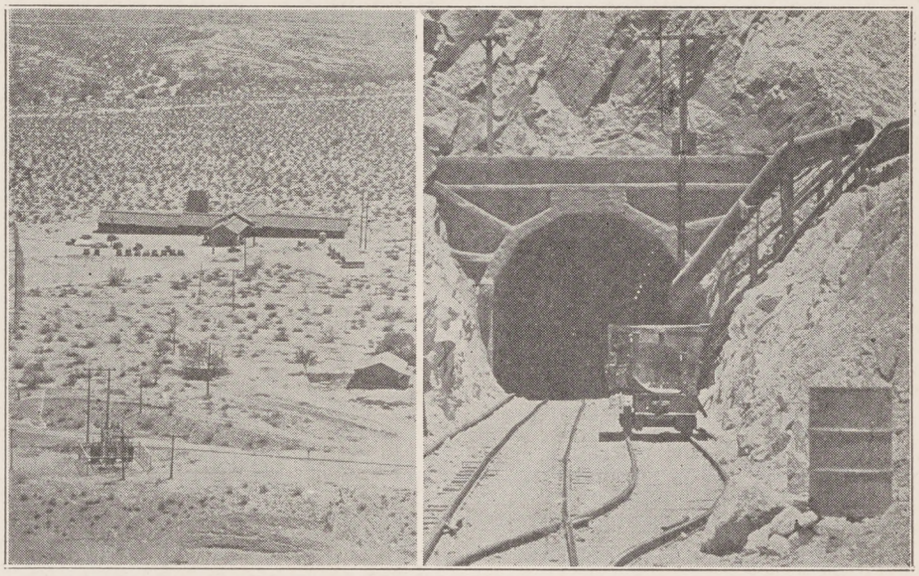
Little Morongo—
District Force Account.....R. L. Bryant,

Whitewater Tunnels, West Constr. Co., H. E. Carleton, Gen. Supt.; Angus MacDonnell, Tunnel Supt.

San Jacinto Tunnel, Wenzel & Henoch, Walter Heenecke, Gen. Supt.; W. A. Boyd, Walter Baer, and Jack May, Tunnel Supts.

Bernasconi Tunnel, Hamilton & Gleason Co., H. J. King, Gen. Supt.

Valverde Tunnel, Dravo Contr. Co., R. W. Remp, Gen. Supt.; H. C. Richarson, Asst. Gen. Supt.; Dean Luther, J. R. Glaeser, Jack Stone, and Fred Youmans, Tunnel Supts.



Dixon & Bent's West Eagle Mountain Camp, and the west portal of West Eagle Mountain tunnel.

Boulder Dam May Be Completed By May, 1935

Press dispatches from Washington containing the official announcement that Boulder Dam, sister project to the aqueduct, may be completed by May 1, 1935, two years ahead of schedule, were the subject of interest at Metropolitan Water District headquarters last week.

The announcement was made by Secretary of Interior Harold L. Ickes, PWA administrator, according to the newspaper advices. His estimate of completion in 1935 was based upon a continuation of present progress.

Meanwhile, with work going forward steadily on the giant government project under the direction of Frank Crowe, superintendent for Six Companies, Inc., and Walker Young, resident engineer for the Reclamation Bureau, Southern California anglers were being intrigued by an announcement of the United States Bureau of Fisheries at Salt Lake.

Fred J. Foster, district supervisor of the Bureau, has released the information that the Boulder Dam reservoir and 300 miles of the Colorado River below the dam will be stocked with several million warm-water fish.

In addition, a half million large rainbow trout will be placed in the cold, clear water which will flow for about twenty miles below the dam. The lower temperature of the stream for this distance will be caused by the fact that the water is to be drawn from a point about 250 feet below the surface of the lake.

Visitors Attracted By Conveyor At W. Eagle

With steady and consistent progress continuing to characterize operations, the L. E. Dixon & Bent Brother's West Eagle Mountain tunnel job continued last week to attract visitors seeking a view of the unique conveyor-loader in operation there.

Developed by L. E. Dixon, the device is somewhat similar in general shape and size to the King "grasshopper" which was perfected by Superintendent H. J. King at Bernasconi tunnel on the aqueduct. Its steel frame supports a belt conveyor, on one end of which a mucking machine deposits the excavated material for conveyance to the empty cars under the other end of the machine.

The space under the conveyor, between the side frames of the device, provides storage for loaded cars. While the mucker is working continuously at one end of the conveyor, an entire train may be loaded at the other end without loss of time. When one train has been filled, the loading operation is delayed while the loaded train is drawn out and the empty one is put in.

Dixon & Bent have under contract the west portion of West Eagle Mountain tunnel, involving the excavation of 10,649 feet of bore. P. C. Guinn is general superintendent of the job.

The job is considered one of the cleanest along the aqueduct line, and the contractors are making a record from the standpoint of minimum overbreak.

BEST PROGRESS
This Period
Rock Tunnels-Mecca Pass No. 3, 867 ft.
Gravel Tunnels - Whitewater No. 2, 953 ft.

TUNNEL PROGRESS

MAY 16 - JUNE 15, 1934
Tunnel Excavated to Date, 28.37 Miles

BEST WEEK'S PROGRESS
This Year
Rock Tunnels-Mecca Pass No. 3, 236 ft.
Gravel Tunnels-Whitewater No. 2, 233 ft.

TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET: Average Per Shift	This Period	Total to date
Walsh Constr. Co.					
COLORADO RIVER	(5514)				
West Portal	5514	24	3.9	94	94
COPPER BASIN, No. 1	(752)				
West Portal	752	60	6.9	412	752
COPPER BASIN, No. 2	(11,580)				
East from adit	1878			0	1878
Adit	330			0	330
West from adit	9702	93	7.3	676	3849
WHIPPLE MT.	(32,265)				
East from adit	18,352	93	6.8	630	3782
Adit	924			0	924
West from adit	13,913	85	5.8	494	3188
Winston Bros.					
IRON MT.	(39,759)				
East from shaft	9844	81	4.9	394	1603
Shaft	165			0	165
West from shaft	13,743	81	7.4	596	3986
Utah Constr. Co.					
IRON MT.					
West Portal	16,172	93	7.0	647	6770
Winston Bros.					
COXCOMB	(17,795)				
East Portal	8765	81	7.8	635	5015
West Portal	9030			0	0
Broderick & Gordon					
EAST EAGLE MT.	(9,442)				
West Portal	9442			0	0
WEST EAGLE MT.	(26,494)				
East from adit	7871	87	5.5	480	1582
Adit	2008			0	2008
West from adit	7974	93	1.0	93	972
Dixon & Bent					
WEST EAGLE MT.					
West Portal	10,649	87	7.1	618	4781
Hunkin & Conkey					
HAYFIELD, No. 1	(9677)				
East from adit	5317	54	5.4	291	1500
Adit	511			0	511
West from adit	4360	54	6.1	330	1171
Shofner & Gordon					
HAYFIELD, No. 2	(5375)				
West Portal	5375	54	5.9	316	2378

TUNNELS ON CONTRACT	Length in feet	Number of Shifts	EXCAVATION PROGRESS IN FEET: Average Per Shift	This Period	Total to date
J. F. Shea Co.					
COTTONWOOD	(20,105)				
East Portal	10,114	81	7.4	603	5765
West Portal	9991	81	7.9	638	5513
Morrison-Knudsen					
MECCA PASS	(5,940)				
No. 1, West Portal	338	12	4.8	58	338
No. 2, West Portal	997	32	5.5	177	184
No. 3, East Portal	4605	81	10.7	867	4503
West Constr. Co.					
WHITEWATER	(10,206)				
No. 1, West Portal	2060	0	0	0	35
No. 2, East Portal	8146	81	11.8	953	6123
Wenzel & Henoch					
SAN JACINTO	(67,415)				
East from Cabazon	8553	93	0.9	88	599
Cabazon shaft	246			0	246
Cross drift	935			0	935
West from Cabazon	22,839	93	8.0	748	2001
East from Potrero	20,589	60	1.5	92	109
Potrero shaft	796			0	796
West from Potrero	6712	93	1.6	150	165
West Portal	8722	93	3.1	288	1679
Hamilton & Gleason					
BERNASCONI	(6220)				
East Portal	6220	58	6.3	368	3554
Dravo Contr. Co.					
VALVERDE	(38,765)				
East from Shaft 1	2140	13	3.4	44	1496
Shaft 1	64			0	64
West from Shaft 1	1525	68	2.2	152	942
East from Shaft 2	5400	87	3.7	318	3472
Shaft 2	204			0	204
West from Shaft 2	5400	87	3.1	270	3390
East from Shaft 3	6950	55	0	0	2450
Shaft 3	192			0	192
West from Shaft 3	6950	87	5.4	471	3234
East from Adit	5117			0	0
Adit	406	38	2.7	103	103
West from Adit	5283			0	0
Total Excav. Contract Tunnels exclusive of Adits and Shafts (In Miles)	307,304 58.20	2375	5.47	12,991 2.46	88,853 16.83

TUNNELS ON FORCE ACCOUNT

	Sched.					
EAST COACHELLA TUNNEL		(96,610)				
Yellow Canyon Adit		686			0	686
East from adit	1	10,204	81	7.5	611	5633
West from adit	1	10,076	81	8.4	681	5310
Fargo Canyon Adit		891			0	891
East from adit	2	11,850	82	7.6	627	4841
West from adit	2	15,200	81	5.1	411	4445
Berdoo Canyon Adit		2042			0	2042
East from adit	3	15,824	81	8.3	675	5736
West from adit	3	12,456	81	9.2	744	5489
Pushawalla Canyon Adit		2935			0	2935
East from adit	4	10,186	81	7.4	598	3249
West from adit	4	10,814	81	9.3	756	3650
WEST COACHELLA TUNNELS		(81,109)				
THOUSAND PALMS						
No. 1, West Portal	5	16,058	81	4.5	362	5109
No. 2, Tunnel	5	3838			0	3838

	Sched.					
WIDE CANYON						
No. 1, E. Portal	5	5122	81	5.6	455	1349
No. 1, W. Portal	6	9183	81	6.7	544	4869
No. 2 Tunnel	6	848			0	848
SEVEN PALMS		(16,730)				
E. Portal	6	8390	81	5.9	474	4132
W. Portal	7	8340	81	6.6	535	711
LONG CANYON		(15,240)				
E. Portal	7	8360	81	6.6	538	761
W. Portal	8	6880				0
BLIND CANYON		(6,788)				
E. Portal	8	—				0
W. Portal	8	6788	81	5.7	459	597
MORONGO No. 1		(5,512)				
E. Portal	8	5512	71	4.9	349	377
W. Portal	8	—				0
MORONGO No. 2		(1790)				
E. Portal	8	1790				0
W. Portal	8	—				0
Total excav. Force Acct. Tunnels excl. of Adits and Shafts (In Miles)		177,719 33.66	1287	6.85	8819 1.67	60,944 11.54
Total Tunnel Excavation (Miles)		91.86		5.96 ft.	4.13	28.37

Heading excavation is counted as two-thirds of full tunnel excavation.

NEWS FROM FIELD AND OFFICE

G. B. Hoag, vice-president of Hunkin & Conkey Construction Company, has issued an invitation to all aqueduct employees who are devotees of that ancient Scotch pastime to play the spectacular six-hole course which has been laid out on the floor of Hayfield Dry Lake. Mr. Hoag promises that aqueduct golfers will find the new links replete in hazards which are (to put it mildly) novel and surprising.

* * *

An outstanding progress report was received last week from Morrison-Knudsen's Mecca Pass tunnel No. 3. During the week ending June 9, 236 feet of tunnel was driven through soft fractured granite with clay seams, needing support all the way. This distance was excavated by 19 shifts, averaging 12.4 feet each. Another noteworthy record was made in the west heading at Pushawalla during the week ending June 2. In 18 shifts 227 feet of tunnel was excacated, making an average of 12.6 feet per shift.

* * *

Another aqueduct wedding occurred in Banning on May 25 when Mrs. Laura Pullman became the bride of Harold E. Munn, of the District's safety staff. Bernard McDonald supported the groom as best man, and Safety Engineer Osgood gave the bride away. The new home will be established in Banning.

* * *

Olin Dutra may be a pretty fair Southern California golfer, but he has no corner on the skill at the game to be found in these parts—not with E. W. Rockwell, of the Electrical Division, packing around a silver loving cup almost as large as the soup kettle in the Berdoo camp kitchen. The silver trophy is Rockwell's reward for winning the Electric Club golf tournament, played over the Riviera and San Gabriel Country Club courses early this month.

* * *

Little Morongo siphon attracted a number of distinguished visitors recently. Villa Costa, engineer with the Mexican government, Mexico City, was accompanied by M. F. Whitman, engineer with the American Concrete & Steel Pipe Company. Felix Barona, engineer in charge of materials and supplies for Pipe Lines and Water Supply, Republic of Mexico, arrived with F. J. O'Leary, representative of the Bonna Pipe Company, of France.

Flying during June for the best camp records for safety, progress, and economy on the Coachella Division in May were:

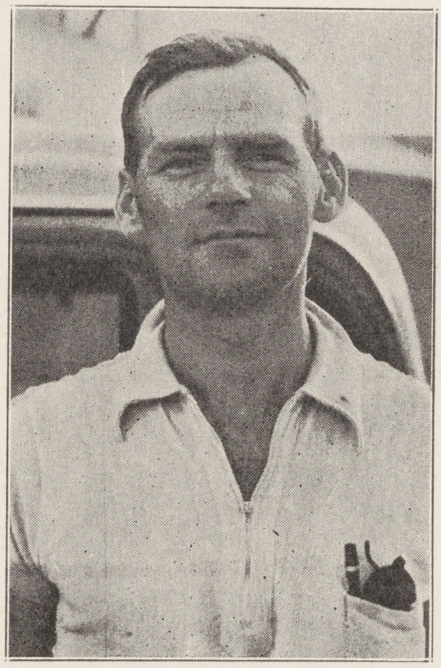
Safety Flag—Fargo Camp.

Economy Flag—Berdoo Camp.

Progress Flag—Berdoo Camp.

* * *

The Hard Hat emblem of efficiency on Division 3 was awarded by Division Engineer Stearns to Winston Brothers' East Iron Mountain Camp for the second consecutive month.



Meet Gilbert Shea, who is head man out on the Cottonwood tunnel job and vice-chairman of the contractors' Safety Committee. Rumor has it that there is one sure way of causing Mr. Shea to forget entirely the solemn precepts of safety—and that is to make a pun, in his presence, to the effect that anyone could whittle his way through a Cottonwood tunnel.

AQUEDUCT TEMPERATURES

May 27 to June 9, Inclusive

	Max.	Min.
Div. 1	99°	59°
Div. 2 & 3	99°	52°
Div. 4	91°	55°
Div. 5 & 6	83°	45°

There was a great wailing and gnashing of teeth out on Division 3 two weeks ago when the June 5 issue of the NEWS was received and read—and well there might be, since that publication committed the unpardonable sin of waxing unduly enthusiastic over the 233 feet excavated in Whitewater tunnel No. 2 during the week ending May 26. The NEWS so far forgot itself as to state that the mark broke all aqueduct tunnel driving records. For this grievous warping of the facts, the NEWS hereby apologizes to Messrs. Ben Arp and John Stearns, et al., and hastens to report that the Utah Construction Company drove 315 feet on Iron Mountain tunnel during the week ending November 18, 1933.

* * *

While police kept back the surging crowds one day last week, firemen wearing smoke masks scaled the walls of the M. W. D. building, and entered windows on the eighth floor, from which great clouds of very black smoke were pouring. Inside they found, to their surprise, a tranquil scene. Employees were contentedly puffing big Santa Fes, while Earl K. Burdick wended his way to his table, carrying an empty cigar box. Real cause of the commotion was Donald Richard Burdick, born on June 11.

* * *

Judge John Dennis, former mayor of Torrance and for several years representative of that city on the board of directors of the Metropolitan Water District, passed away on June 6, following a short illness. High tribute was paid to Mr. Dennis last week in a resolution of sympathy passed by the District board, and forwarded to his family.

* * *

Marion L. Crist, assistant engineer in the Distribution Division, resigned his position on June 15 to become associated with a firm of consulting engineers, for whom he will be engaged in the appraisal and design of public utility systems.

* * *

Dr. Pexton has moved into the new camp hospital at Long Canyon, and has launched construction operations on his garden and goldfish pond, which, according to the Doc, will be the best on the aqueduct.

* * *

F. E. Schmitt, editor of Engineering News-Record, was a visitor along the aqueduct line last week.

Rules for Treating Heat Ailments Given

With hot summer weather coming on along the aqueduct line, attention of all employees was called last week to facts concerning preventative measures and emergency treatment for heat or sun stroke and heat exhaustion.

The following material was compiled by Dr. T. Sheridan Carey, chief surgeon-medical officer of the District, for the study of all aqueduct workers:

HEAT STROKE

Generally caused by prolonged exposure to excessive heat, usually in the sun, although it may occur in hot rooms. Exhaustion and improper clothing preventing the proper elimination of heat from the body surface are powerful contributing factors.

Warning Symptoms

(1) Headache, (2) Dizziness, (3) Irritability, (4) Seeing things red or purplish, (5) Skin dry and hot, (6) PUPILS CONTRACTED, and (7) HIGH TEMPERATURE.

Treatment

Rapid reduction of temperature is necessary; that is: by disrobing patient in shade. Wring towels or cloths in cool water and apply over body surface, changing frequently. If possible, ice cap to head and cool bath. *Cool* water to drink—NOT ICE WATER. Have patient drink quantities of water, ABSOLUTE REST for 24 hours or longer. Liquid diet, cool orange juice, water, lemonade, etc.

HEAT EXHAUSTION

Causes same as those producing heat stroke.

Warning Symptoms

(1) Dizziness, frequently with vomiting, (2) Cramps in muscles, (3) TEMPERATURE BELOW NORMAL, (4) Skin is pale, cool, and moist, (5) PUPILS ARE DILATED OR NORMAL, (6) Pulse weak, and (7) Respiration shallow.

Treatment

Remove to cool place, apply HOT APPLICATIONS, WARM OR HOT BATH. Lower head, administer hot coffee or aromatic spirits of amonia (1 teaspoonful in a glass of cool water). Keep patient quiet in bed, blankets if necessary.

If emergency treatment does not relieve patient, get in touch at once with Berdoo Hospital.

* * *

PREVENTATIVE MEASURES

Do not drink ICE water, Water should be cool or warm, but NOT cold.

Eat plenty of salads, vegetables and light food. Eat meat only the last meal of the day after work is finished and you are rested. Eat slowly. Save energy to counteract the heat, rather than to digest food, which has not been properly chewed.

Shoes should be extra large size on account of feet swelling during hot weather. Wool socks, flannel shirts, felt hats or helmets should be worn. Do not go about in the excessive heat without clothes. For safety and comfort wear clothes as above.

USE COMMON SENSE. Desert heat will not overcome you if you are sensible and reasonable and use ordinary caution.

BEST TUNNEL ADVANCE TO JUNE 1

Tunnel and Heading		Best Wk. Ft.	Best Mo. Ft.
Colorado River		—	—
Copper Basin No. 1		153*	649*
Copper Basin No. 2	—E.	154	562
	—W.	200	788
Whipple Mt.	—E.	193	798
	—W.	168	637
Iron Mt. Shaft	—E.	92*	377*
	—W.	176	712
Iron Mt. W. Portal			
	Sand	315	1,027
	Rock	174*	690*
Coxcomb	—E.	183	615
East Eagle Mt.		—	—
West Eagle Mt. Adit	—E.	122*	471*
	—W.	96	347
West Eagle Mt.	—W. Portal	180	702
Hayfield No. 1 Adit	—E.	86	328*
	—W.	94	356*
Hayfield No. 2	—W. Portal	114	379
Cottonwood	—E.	227	791
	—W.	186	716
Messa Pass No. 1		—	—
No. 2		—	—
No. 3		195*	782*
Yellow Canyon	—E.	196	663
	—W.	202	772
Fargo	—E.	171*	639*
	—W.	150	552
Berdoo	—E.	209*	791*
	—W.	216*	774*

Tunnel and Heading		Best Wk. Ft.	Best Mo. Ft.
Pushwalla	—E.	142	576*
	—W.	182*	797*
1000 Palms No. 1	—W. portal	176	555
No. 2	—E. "	156	586
Wide No. 1	—E. "	143	534
No. 1	—W. "	160	575
No. 2	—E. "	98	366
Seven Palms	—E. "	194	600
	—W. "	111*	415*
Long Canyon	—E. "	114*	405*
Blind Canyon	—W. "	98*	345*
Morongo No. 1	—E. "	54*	169*
Whitewater No. 1		—	—
(Gravel) No. 2	—E. portal	233*	910*
SAN JACINTO TUNNEL:			
Cabazon Shaft	—E.	83	187
	—W.	164*	620*
Portrero Shaft	—E.	—	—
	—W.	—	—
West Portal		—	—
Bernasconi		108	406*
Valverde Shaft No. 1	—E.	148	475
	—W.	83	243
Shaft No. 2	—E.	129	520
	—W.	139	505
Shaft No. 3	—E.	166	423
	—W.	127	418*

*New records made during May.

The above table compiles the best week's and month's progress made at each aqueduct tunnel heading since construction started. Only headings at which work is fully under way are shown. That excavation is steadily gaining momentum is revealed by the number of records made during the month of May.

Coachella Division Recreation Hall Is Opened

By the time this issue of the NEWS reaches its readers the gala night of June 19 will have become a matter of history, and the Coachella Division's new recreation hall will have been formally and festively opened.

Preliminary plans for the opening, made by George Willson and Fred Fauble of Berdoo, included dancing and entertainment. All aqueduct employees were invited to attend.

The new building is the latest adjunct to recreational facilities along the aqueduct. It has overall dimensions of 39 feet by 72 feet. The auditorium inside is 38 feet by 60 feet, with a 12 by 24 foot stage at one end. This stage has a 12-foot portal section which may be added, making a boxing ring.

A hard edge grain pine floor, suitable for dancing has been installed, and a well lighted interior is assured by numerous windows. The exterior design of the building is in harmony with other camp structures.

Laying of Pipe Is Resumed on Siphon

Installation of pipe sections on the Little Morongo siphon was resumed last week following the completion of the excavation of the trench in which the siphon is being placed.

The contractor is excavating the trench to a 20-foot width for the sake of convenience, although specifications call for a base width of 16 feet.

One hundred and fifty linear feet of 60-pound rail has been set to line and grade on concrete ties in the bottom of the ditch. A Gantry crane has been erected for placing the 40-ton pipe sections in the ditch. The pipe sections are rolled down a ramp onto flat cars on the rails in the bottom of the trench, and lifted from the flat cars into place by the Gantry crane.

The work is being carried forward under terms of a $66,000 contract between the District and the United Concrete Pipe Company and the American Concrete and Steel Pipe Company.